

## ABSTRACT

A network storage controller for transferring data between a host computer and a storage device, such as a redundant array of inexpensive disks (RAID), is disclosed. The network storage controller includes at least one channel interface module which is adapted to be connected to the host computer and storage device. The channel interface module is connected to a passive backplane, and selectively transfers data between the host computer and storage device and the passive backplane. The network storage controller also includes at least one controller memory module, attached to the passive backplane. The controller memory module communicates with the channel interface module via the passive backplane, and processes and temporarily stores data received from the host computer or storage device.

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10      In applications where redundancy is required, at least two controller memory modules and at least two channel interface modules are used. The controller memory modules may mirror data between one another using the passive backplane and a shared communication path on the channel interface modules, thereby substantially avoiding the use of host or disk channels to mirror data. The channel interface modules are operable to selectively connect the host

15      computer or storage device to one or more controller memory modules. The controller memory modules may include a DMA engine to facilitate the transfer of mirrored data.

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